Advanced Text Mining Methods

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Schedule and Requirements

Requirements

- Presentation in English; 30+10/45+10 minutes
- Report up to 12 pages long in English or German
- Open for Bachelor & Master Statistics, Data Science, Econometrics
- Basic knowledge of Natural Language Processing is expected.

Schedule

- Distribution of topics: voting for priorities until 04/01/2024
- Presentations: August 2024 (tbd)
- Reports due: 09/09/2024
Motivation

Research Questions

• What do people talk about? – Topic Models
• How do words relate to each other? – Word embeddings
• How can we train a large neural network with little data? – Few-shot learning
• Development of a word’s meaning over time? – Diachronic embeddings
• Changing texts over time? – Change point detection
Projects

Goal: deeper knowledge on modern developments in NLP research

Theory-oriented works

- Diachronic embeddings
- Pattern-exploiting training (PET) and its modern developments
- Few-shot learning techniques for Transformers
- Open Source LLMs
- Neural Topic Models
- Dynamic Topic Models
- ...

Practice-oriented pipelines

- Diachronic Embeddings
- Change point detection
- ...

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